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ABSTRACT

The report describes a pilot program of the Montgomery County (Maryland) Public Schools to identify the incidence of gifted elementary students who are experiencing learning difficulties. Program goals include offering remedial help, assessing the effectiveness of intervention strategies, and developing an early identification process as a preventive measure. Based on identification procedures which involved a nomination process, educational evaluation, and full-scale psychoeducational evaluation, 41 elementary students were determined to be gifted and talented students who needed intervention because of learning problems. Information from staff and parent checklists, classroom observations, individual interviews, medical/social histories, and test data were among multiple sources of input used in making identification and programming decisions. In separate studies, intelligence and achievement levels of the 41 selected students were compared with those of randomly selected gifted and talented students without learning problems, as well as with results of similar studies. Adaptive programming for identified students focuses on ongoing assessment of the entire instructional environment in addition to cognitive and social-emotional characteristics of students. Differences in educational programming for students with mild, moderate, and severe learning difficulties are noted. Finally, implications for research and practice are discussed. Six figures, 12 tables, and a bibliography are appended. (JW)

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A STUDY IN THE IDENTIFICATION, DIFFERENTIAL DIAGNOSIS, AND REMEDIATION OF UNDERACHIEVING HIGHLY ABLE STUDENTS

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This is a report of an ongoing pilot program begun in 1986 by the Montgomery County Public Schools (MD) to identify the incidence of students with high cognitive ability who are experiencing learning difficulties. The immediate goals of the project are to attempt to quantify the nature of the problem and to offer remedial help to identified students. The long term goals are to assess the effectiveness of the intervention strategies and to develop an early identification process as a preventive measure for future school difficulties. This report will describe the procedures used to identify schools and students in the pilot, the population, and the findings of the study. It will also describe the adaptive programming the project is using and the implications of our approaches.

Background

Bright students may be experiencing considerable learning difficulty and not yet fall into the category of learning disabled; those who are identified as learning disabled frequently are not perceived as bright. In an effort to begin to define the nature and incidence of this problem and to examine how to be more responsive to the needs of these students, Montgomery County Public Schools (MD) developed a pilot identification process for gifted learning disabled students. Considerable parent interest and pressure motivated this project and continues to provide interest for further refinement of practices needed to serve highly able learning disabled students who have often been neglected.

In addition to the data gathered in this pilot, assessments were available on approximately 1000 third grade gifted and talented students on the Wechsler Intelligence Scale for Children-Revised (WISC-R) and the California Achievement Tests. This data base provided a wealth of information about the functioning of bright students which is examined in comparison with the newly gathered information in this pilot.

The Report to Congress on Learning Disabilities (1987) states: "Studies should be made of learning disabled children with different IQ levels...Special studies are needed on effective treatment of gifted learning disabled students." A Nation at Risk (1983) reports that over half of the gifted students in the United States are achieving at grade level or slightly below in math and science. Considerable attention during the 80's is focusing on the "underserved" gifted and talented students which includes groups such as minority students and learning disabled or otherwise handicapped gifted and talented students. Joanne Whitmore, Dean of the College of Education at Kent State University, calls these students "the hidden gifted." (1982).

Finding a gap between ability and performance of bright students is not new. The study conducted by Fox, Brody, and Tobin (1983) of data from students served in the reading clinic at Temple University in the mid-1960's indicated that a significant percentage of students served by the clinic had high IQ scores.

In the initial phase of this project, a committee comprised of regular and special education personnel together with staff from the Gifted Unit tried to specify the characteristics of the population based on experience and relevant literature. Identification procedures were developed. (Figure 1) Parent and staff questionnaires are the first instruments used in the screening process. They include the traditional indicators used in the identification of highly able students as well as the obstacles that might mask the recognition of such

ability in the target population. (Figures 2 and 3) The second phase of the screening focuses on educational assessment, and the final phase a complete psychoeducational diagnosis. (Figures 4 and 5) Screening meetings with a multidisciplinary team precede each phase and narrow the pool of candidates to those who require further assessment.

Population

The pilot population consisted of two groups. First, there were nine pilot schools chosen by the administrative areas; six were elementary schools and three middle level schools. Data from these schools would give us some ideas about the incidence of concern about gifted learning disabled students among regular and special educators. The second group in the pilot population were the students who participated in a special summer program entitled Creative Communications. These underachieving or handicapped students might come from any of the 121 elementary and mid-level schools in the district in response to a general invitation to principals.

Table 1 provides the incidence of participation in the project. Of the 244 students called to our attention, educational assessments were completed on 150. Parent and teacher checklists assisted the teams in deciding which students had needs which required a more diagnostic approach. Teams met again after the educational assessments to decide which students should receive the differential diagnostic process.

Of the 150 students in the pilot, 81 full scale psychoeducational evaluations were completed. Of the 81 students, 41 were determined to be gifted and talented students who needed intervention because of learning problems. Table 2 indicates that as a result of the project 24 students were identified as gifted and talented who had not previously been so identified; many of these were already coded as learning disabled. Fifteen students were identified as learning disabled who had not previously been identified.

Incidence

The data from the six elementary schools was deemed more representative for indications of incidence because the mid-level schools referred few students. Table 3 reports the elementary data. About 45 percent of the elementary students referred were given educational evaluations, and 25% moved on to psychoeducational assessment. Five students were coded learning disabled as the result of this project.

Another way of viewing the data is to look at averages. The average elementary school of 350 students referred 14-16 students; of those, 6 or 7 were given educational evaluations, and 3 or 4 were assessed by a psychoeducational battery. One student (or fewer) was coded in this average school as learning disabled, and two were newly identified as gifted and talented.

Findings from parents, teachers, and students

Multiple sources of input were needed in the identification and programming for these students, and to the extent that these sources could function as a unit in piecing together the information, contributed to the success or failure of the interventions. The whole picture came from putting all the pieces of the puzzle regarding an individual child together, and no one piece could give the whole picture. The pieces of the puzzle came from information gathered from staff and parent checklists; classroom observations; parent, teacher and/or student interviews; EMT and SARD meetings; medical/social histories and test data.

The parent and staff checklists were actually hypotheses based on a review of the literature. It wasn't until we evaluated the responses on them, in conjunction with all the other supporting data, that patterns began to emerge. We gained valuable insights from parents into their children's frustration levels and the time spent compensating. One subgroup of parents indicated that their children exhibited all the characteristics as listed on the checklists. Other subgroups listed only some of the characteristics that described their children. There were three characteristics, however, cited by all parents in our sample.

. Vitality of imagination and creativity

. Superior comprehension and retention of vocabulary and concepts when interested

. Wide range of interests and/or special expertise in one particular area

These parents were telling us that their children had highly developed interests, often outside of school. They could express themselves verbally using sophisticated vocabulary while demonstrating a conceptual understanding, imagination, and creative thinking abilities. Parents often wrote detailed descriptions of their children on the checklists. Below are samples, some of which sound like classic descriptions found in the literature.

> Good verbal communicators and an aptitude for foreign languages--poor reader; distractible and easily bored--an excellent memory for verbal information--low self concept--lots of interests outside of school.
>
> Has ability to reason things out; good oral communication skills--can't retain math facts; poor sight vocabulary.
>
> Discrepancy between ability and achievement; grasps concepts and ideas easily but follow-through of tasks is difficult--outside very creative in art/science areas; spends inordinate amount of time doing homework.
>
> High ability--works hard but little seen in results; cannot transfer results to paper--small motor problems.
>
> Large vocabulary; poor spelling; recurring low grades--easily frustrated; poor organization; memorizes quickly--works with tools and likes nature.
>
> Creative, mature and responsible but becomes easily frustrated--low self-esteem--visual motor difficulties; rushes through work.

Good communication skills; analytical; easily distracted--disinterested in school, lacks motivation; avid reader; home work is a family battle.

When evaluating the staff checklists we found some characteristics, whether primary identifiers or obstacles to identification, that were commonly seen by all teachers. There were other characteristics that teachers never cited in describing the students, and other factors which appeared sporadically. There were three primary identifiers that teachers cited about all students. They were:

.Exceptional cognitive power for learning, retaining, and using knowledge/information when interested

.Offers clever unusual or "far-out" responses or solutions to problems; may develop own system for solving problems

.Has large storehouse of factual knowledge about a variety of topics or expertise in a particular area

The obstacles to identification mentioned consistently about all students were:

.Evidences a vast gap between qualitative level of written and oral work

.Poor organizational, planning, and sequencing skills

The primary identifier never mentioned by teachers was: uses unique and effective means to compensate for learning difficulties. The psychologists working on the project, however, often cited this ability as a clue of giftedness and one they observed often in the one-on-one testing setting. The obstacles to identification never mentioned by teachers were:

.tends to set what may be unrealistic standards for self and for work--goals which are too high or too low

.task commitment but easily distractible

.passive or "unmotivated" attitudes toward school

There were significant parallels with what parents and teachers saw as characteristics of these children. Parents mentioned "superior comprehension and retention of vocabulary and concepts when interested" while teachers noted "exceptional cognitive power for learning, retaining, and using knowledge/information when interested." Teachers cited "offers clever unusual or far-out responses or solutions to problems; may develop own system for solving problems' and parents spoke of "vitality of imagination and creativity." Parents consistently mentioned their children having wide range of interests and/or special expertise in one particular area and teachers commented on their large storehouse of factual knowledge about a variety of topics or expertise in a particular area. This illustrates the importance of the team approach mentioned earlier in putting the pieces of the puzzle together.

The students themselves proved to be a rich source of information and an invaluable contribution to the project. The instruments used to assess these students were not always adequate making their perceptions an important piece

of the puzzle. Their comments and perceptions were gathered from the many Educational Management Team (EMT) and School Admissions Review and Dismissal (SARD) meetings and from interviews.

Their major messages to us were:

.to listen to the student and try to understand his/her individual problems and needs when recommending accommodations

.to be sensitive about our not wanting to be different

.to not call us lazy

.to listen to the parents for they often see the difficulties better than teachers or counselors

.to see how hard I try and how much work that takes

.to be flexible and willing to try different approaches to learning and production

Findings from the assessments

The population of 41 highly able students with learning difficulties followed through the entire multistage screening process to a full psychoeducational evaluation. Individual students cognitive abilities were assessed through an administration of the WISC-R, and they had to obtain an IQ score of 120 or greater on either the verbal, performance, or full scales to be identified as highly able children.

After our evaluation of this population we reviewed how these students had been perceived and were impressed by the variety of ways they presented. There were 3 general groupings:

Group 1:
.Unrecognized ability/unrecognized problems and functioning at grade level;

Group 2:
.Recognized high verbal skills and for some gifted and talented identification but unrecognized learning disabilities. The perception of teachers and parents of this group was often of underachieving or unmotivated students;

Group 3:
.Recognized learning disabilities or problems but no recognition of the high ability level. An almost exclusive focus on the disability or learning problem despite the fact that buried in some of the students' psychological reports were comments or recommendations that the high ability areas be nurtured along with remediation of their disability or problem; and/or an emotional overlay: (no recognition of gifted and talented component or the amount of compensatory skills being employed by the student.) This overlay occurred in regular and special education settings.

The goal of the assessments was to quantify the nature of the learning problem. To do that we had to go backwards and ask basic questions.

1. How do highly able kids function cognitively?

2. How do highly able kids function academically?

The two school psychologists did not wish to simply create categories in which to place children. Mindful of an article by McDermott (1982) which notes that it is incumbent on professionals to develop and maintain systems of school grouping and classification that are both reliable and valid for the purposes for which they were created, we set out to statistically analyze the clinical impressions we had and to document the classifications employed by the multidisciplinary teams in assessing these students. With these goals in mind we did three things: we looked at the WISC-R profiles of highly able students with and without learning problems; we looked at the achievement levels of these two groups; and we tried noting if there were observable patterns or clusters within the learning problem population itself.

In our first analysis we compared the WISC-R scores of highly able third grade students from the regular program to highly able students with learning problems. This t-test analysis is a partial replication of a study first done by Schiff and Kaufman (1981). (Table 4 displays their findings.) In their study they identified a group of gifted/learning disabled students and compared their WISC-R scores to the normal population scores. Schiff and Kaufman hypothesized that the WISC-R for their gifted and talented/learning disabled children would produce a characteristic pattern of strengths and weaknesses in the subtest profile and would also yield a large amount of scatter, significantly more than the scatter found for normal populations or groups of conventional children.

In drawing comparisons between the learning disabled population and the gifted and talented/learning disabled population, Schiff and Kaufman found on Table 5 that the areas of weakness for them was virtually identical to the deficiencies for conventional samples of reading disabled and learning disabled. ACID profile (Schiff and Kaufman, 1981) was confirmed. Areas of strength to be found in the gifted and talented/learning disabled population are in verbal comprehension (information, similarities, vocabulary, comprehension) and are quite different from the strengths found in the normal learning disabled population whose strengths lie in nonverbal and spatial integrities. Interscale and intrascale scatter was noted to depart from the typical learning disabled profile and to also be significantly different from the normal population. The possibility of selection bias was noted by Kaufman particularly since there is some evidence that high IQ children in general have more than typical scatter in their profile.

In our study we decided to compare the 41 highly able students with learning problems to 80 randomly selected third grade gifted students and found the ACID profile. Tables 6, 7, and 8 present our findings. We did not find the significant verbal-performance IQ discrepancy that Schiff and Kaufman found.

We also decided to compare the achievement levels of gifted and talented students to those students whom we had identified as highly able with learning problems. A discriminant analysis was performed on 107 students who met the highly able IQ criteria noted above. Seventy-one of the subjects chosen were randomly selected from a pool of students already identified as gifted and

talented; 36 subjects were from this study and has been identified as highly able with learning problems. All subjects had been administered this California Achievement Battery in third grade. Four predicator variables were chosen from the California Achievement Battery to assess the classification of highly able with learning problems vs. highly able. The four achievement subtests chosen to predict group membership were reading comprehension, spelling, math computation, and math concepts and applications. These subtests were selected because they were thought to be possible clinical markers for students with written, organizational, and sequential processing problems resulting in academic weaknesses in these areas. Tables 9 and 10 present our findings.

When the classification results from the discriminant scores were used to predict group membership, 20 of the 31 student identified as highly able with learning problems were correctly classified, and 65 students out of the 76 identified as gifted and talented were correctly classified. The percent of cases correctly classified was 79.44% as shown in Table 11.

Table 12 presents a third approach using case clusters which was employed to try to develop a taxonomy regarding the nature of the problems seen in this restricted IQ population. Taxonomic classification has been advocated by Achenbach (1985), Wunsch-Hitzig (1980) and in the recent Report of Congress on Learning Disabilities (1987).

While the IQ range was restricted, the severity of the difficulties experienced by students appeared to follow a continuum from mild to severe. The assessment of these learning difficulties came from the individual case studies in conjunction with the decisions of the multidisciplinary teams. The data appears to fall into the three general categories on Table 12.

Phase Three: Adaptive Programming

There are few existing programs for the highly able child with learning problems. Those model programs that are described in the available literature tend to be aimed at the more severe subgroup. The study by Fox (1983), and the more comprehensive programs implemented in large school systems like that described by Baldwin and Garguilo (1983) in Westchester County, New York and the model program of Udall and Maker (1983) in Arizona, provided guiding principles for programming for our severe subgroup. However, by using more precisely tuned conceptual definitions advocated by Fox, Brody and Tobin (1983), as opposed to common operational definitions of achievement-potential discrepancies, we identified children in regular classrooms who had been excluded from consideration as either highly able, learning disabled or both. In fact, unlike the samples described in these programs for more severely involved students, 80% of our sample seemed capable of successfully functioning in mainstream classes, if given various amounts of adaptive programming. Their needs, and hence their programming, presenting somewhat different issues. Thus, the major effort of this part of the study was focused on a systematic, longitudinal evaluation of the effects of various adaptive programming techniques devised to enable these highly able students with mild and moderate learning problems to further develop areas of strength and to succeed in regular and/or gifted education programs.

Keenly aware of both the recent debate over Will's Regular Education Initiative (1988) based on the vast amount of efficacy research which provides scant or conflicting support for the success of special education programs,

and the recent criticisms of the quality of learning disabled research (c.f. Senf, 1976; 1978; Wong, 1979; 1986; Senf, 1986), we carefully considered these issues in planning our interventions. From an analysis of a comprehensive review of the learning disabilities literature, Wong (1986) proposes two solutions for obviating the problems plaguing learning disabled research; 1) more precisely defined samples, and 2) more theory-based research. Congruent with Torgesen's (1982) recommendation for rationally defined subgroups through cluster analysis and use of marker variables, we identified target characteristics and relatively homogeneous subgroups in terms of processing difficulties and areas of difficulty in school. To act further on Wong's recommendations, we needed to develop theory-based intervention programs that would be responsive to the processing problems and school difficulties identified.

Theoretical and Empirical Basis

The question became which theoretical framework would best serve our purposes. From our data it became clear that a major deficiency of the traditional assessment and classification system was the tendency to assume that the problem resides in a deficit within the child. Student and parent interview data posed an equally plausible possibility that the problem may reside in the environment and/or in the interaction between the environment and the student. Recent analyses of the learning disabled literature from a perspective based heavily on work in developmental and cognitive psychology provided an understanding of the interactive nature of the learner and the environment, and of cognitive learning with social and motivational aspects which fit our sample characteristics well.

This perspective suggested that instructional programs based on either ability deficits or skill mastery models of learning disabilities have been ineffective because they have conceptualized the problem too simplistically (Wong, 1985). By focusing exclusively on a child's deficits, they have failed to grasp the complexity of the total learning situation in which multiple and interactive factors determine the learning outcome (Brown, 1982; Jenkins, 1979). The child's deficits stand as one factor. Jenkins' (1979) tetahedral model (TM) as shown in Figure 6 has been adopted by these researchers as a way to understand learning and learning problems in interactive terms (c.f. Bransford, 1979; Brown, 1982).

Jenkins' TM outlines four basic sources of influence in a learning situation: 1) Characteristics of the learner--various individual differences that affect how a student learns; 2) Nature of the materials--how well they match learner characteristics; 3) Criterial task--how the learner will be expected to demonstrate acquired knowledge/skills; this sets the learner's purpose and self-evaluation standards; 4) Learning activities engaged in by the learner--the extensiveness of repertoire or cognitive and metacognitive strategies and how spontaneously and automatically they can be employed. In a recent article in Exceptional Children, Turnure (1986), argues for the addition of a fifth dimension, the instructional agent, to emphasize the important role of student--teacher interactions and communication in learning and cognition. Recent research from this perspective has shown clearly how each of the sources in this model governs the likelihood of a student's successful learning (c.f. Wong, 1985, for a review). Success of training paradigms addressing both cognitive and social-emotional characteristics of learning disabled students based on the model have also been developed (Wong, 1985; Palinscar & Brown, 1984). Thus, this theoretical framework was chosen

as the basis for developing our initial efforts in adaptive programs for our sample.

Given this model, the focus of assessment had to be broadened in two ways as advocated by Tindall & Marston (1986). First, prior to designing an intervention, we assessed not only cognitive and social-emotional characteristics of learners, but we also assessed the entire instructional environment. Based on the assessment of the match between learner and instructional environment, interventions were designed to focus on the various aspects of the instructional setting and/or the child seen as contributing to the mismatch. Second, assessment was seen as an on-going activity throughout delivery of the intervention, not confined to a routine procedure conducted only at the initial phase for identification and classification. A primary purpose of assessment in this context was on-going instructional planning based on continuing pupil/program evaluation. This broadened focus of assessment is also consonant with Salvia and Yesseldyke's (1981) view that assessment should provide data for educational decisions beyond identification and screening and should include instructional planning and pupil/program evaluation.

Common Program Components

Although there was heterogeneity within the total sample, and although there was an attempt to individualize each child's unique pattern of strengths and weaknesses and to the unique aspects of the learning environment, given the restricted range of ability, considerable commonality was clearly reflected across the sample. Like all highly able students, these students conceptualized quickly, see patterns and relationships readily, reason abstractly and enjoy the challenge of autonomously solving novel problems. Their difficulties are with basic automatic skills that most students can readily call upon, such as good graphomotor speed, sequencing, ability to visualize and organize material quickly. They also demonstrate deficiencies in study skills, in scanning and in monitoring written errors. However, without recognition of the duality of their uniqueness, academic deficiencies tend to be stressed and strengths ignored. As a result of students' perception of the gap between their expectations based on their ability and their actual performance in school, many become frustrated and feel inadequate. Some, many of whom are boys, tend to respond to the frustration by avoiding tasks that cause them difficulty and/or by becoming behavior problems. Others, many of whom are girls, tend to exert extra effort to compensate and become perfectionistic and anxious, especially on tests. The longer the situation goes unrecognized, the less students feel able to control their success or failure, the less they see effort as making a difference. Gradually they give up, lose motivation and develop low academic self-concepts, until emotional issues become the primary barriers to their success. The teachers may tend to view them as motivation or behavior problems and not to recognize their hidden potential.

Given these commonalities, the two major goals of all interventions were 1) to recognize and provide opportunities to further develop strengths while devising compensatory strategies or remediation for weaknesses; and 2) to help students see themselves as highly capable individuals able to control their own learning. By aiming programming adaptations not only at the learner, but also at the other model components, we hoped to convey to students the message, "You can succeed, and here's how."

Program for Moderate Subgroup

In addition to the patterns seen across subgroups, there was further commonality within subgroups, as would be expected by their greater homogeneity. This allowed for further similarity in programming. In general, the moderate subgroup had strong verbal ability, but weaker sequencing, perceptual-organization and/or perceptual-motor integration skills. In school this was manifested primarily in difficulty with organization, written language, spelling and often mathematics computations. Intervention focused on five general components adapted to unique individual differences and instructional settings: 1) computer access and development of keyboarding and word processing skills, including use of a spell-checker; 2) resource room support for structured, step by step instruction in the writing process, which incorporated both strategies outlined by Alley and Deschler (1979) and the use of graphic organizers; 3) Self-management programs for organization which included both time-management and study skills strategies; 4) A counseling component focused on developing academic self-concept and either cognitive-behavioral self-control strategies for coping with frustration, or anxiety reduction focused self-instructional training; 5) Classroom accommodations in materials and instructional techniques which decreased the demand for writing in both instruction and in performance and included use of a calculator as needed. Outside counseling was also required for several older children who had developed extremely low self-images. This programming typically required on-going cooperative planning, monitoring and revision by a team of professionals including classroom teachers, resource teacher, gifted specialist, school counselor, and school psychologist with parents and the student.

Program for Mild Subgroup

Students in the mild subgroup were similar to those in the moderate subgroup in their pattern of strengths and weaknesses. They differed primarily in the degree of severity of both their cognitive-academic and affective and motivational difficulties. Once the mismatch between instructional environment and their optimal way of learning and performing was corrected via various classroom accommodations, both their academic and motivational problems were quickly obviated. They were able to succeed at a level congruent with their ability. The major school problems of this subgroup centered on organization and perceptual-motor integration problems. Alternative modes of output to paper-pencil tasks, such as oral reports and examinations, use of the tape-recorder to facilitate note-taking, and work-processing obviated many problems. Self-management systems for time planning and study-strategies, as well as graphic organizers were also used in many cases. Most of these programs were set up by the school psychologist, but monitored and implemented jointly by classroom teacher, child and parents. In several cases, where self-concept or confidence was also an issue, the school counselor was involved. The school psychologist was available in a consultative role for monitoring and revising as needed.

Program for Severe Subgroup

Although most of our severe subgroup are placed in regular self-contained learning disabled classes throughout the county, we have just begun a special self-contained class for highly able students with learning problems. The basis of adaptive programming for this group came from four sources; 1) a review of current literature and visitation of existing programs; 2) our

experience in programming for mild and moderate subgroups; 3) our experience with our Creative Communications summer program for heterogeneous groups of highly able students with learning problems. In this summer program based on Renzulli's Enrichment Triad Model (Baum, 1984), students were provided motivation and challenge through self-chosen and interest-based enrichment activities following a given theme, while compensatory strategies were developed for areas of weakness. For example, students with written expression problems were provided with a computer-rich, activity-oriented environment to facilitate creative expression; and 5) the five areas of the pentahedral model including the interaction between cognitive-academic and affective-motivational characteristics of the learner. As noted earlier, although they have good reasoning and conceptualization ability, these students have severe problems with basic reading and/or writing skills; many also have pervasive language processing difficulties. Most have experienced considerable difficulty and frustration in school since early grades.

The self-contained class, for students in grades 4-6, has as its overriding goal to provide an environment adapted to the unique pattern of strengths and weaknesses of these students, in which they can become autonomous learners with good self-concepts and know how to capitalize on their many strengths to circumvent their weaknesses. The teacher has experience in both gifted and special education and provides a classroom climate that is mastery vs. performance oriented. Students and teacher jointly set goals and utilize the students' abilities to analyze and solve their own problems. Materials and methods are chosen to provide an enriched, critical thinking/creative problem solving setting for acquiring the skill and content objectives of the MCPS curriculum in each subject area. However, materials are individualized to accommodate the disability and present knowledge at the level of ability, not the skill. Instructional methods are activity-oriented, provide for socratic dialogue, much small group and teacher-student interaction and incorporate computer based instruction. Mentoring and surface counseling are integral parts of the program with provision for mainstreaming in a school with intellectual peers.

Conclusion

Although the program is still in embryonic stages, preliminary data support several conclusions. First, a population of highly able students with learning problems of varying degrees of severity can be both clinically and statistically identified in a large school system. Second, if samples are clearly defined according to level of ability, characteristic patterns of strengths and weaknesses emerge that can be identified not only by complete psychoeducational evaluation, but, perhaps also by marker patterns in group achievement test scores. Third, a theoretical framework that provides an understanding of learning and learning problems in terms of the interactive nature of learner and instructional environment, and of cognitive and affective factors, provides an effective basis for developing adaptive programming for these students. Monitoring of program effectiveness to date indicates that consideration of the interaction of all of these factors can afford these children success in regular and gifted programs. Students who were in danger of failing have made the honor roll in special gifted programs and regular education programs. A student, who was considered as a major behavior problem by peers and teachers alike the previous year, was elected to and performed as a remarkably responsible leader in a student council office.

Two caveats are important to note, however. First, success seems contingent upon all of the pieces being in place. While each piece adds a necessary component, no single piece alone is sufficient. Second, although there are commonalities within relatively homogeneous subgroups, each child and each situation is also different. Programming must be individualized to adapt to the unique aspects of child and setting to be successful. This often depends upon the total, sustained cooperative effort of a team of professionals from regular, gifted and special education working with parents and child in on-going assessment, planning, monitoring and program development. It also requires an expanded, active consultative role of the school psychologist in every phase, not just initial assessment.

Implications

These conclusions have important implications for research and practice. First, our initial findings support recent suggestions that theory-based programming tailored to more precisely defined samples can obviate some of the problems plaguing learning disabled effectiveness research. Further research from an interactive perspective within clearly defined cognitive ability ranges seems warranted in order to more accurately identify and program for children with learning problems. Ability and motivation seem important mediating factors that must be jointly considered in any successful intervention.

Second, assessment and cooperative interdisciplinary team effort cannot be confined to the initial identification stage. Successful programming depends upon on-going assessment, planning and program revision. This implies collaboration and joint assumption of responsibility for developing a match between learner characteristics and instructional environment by regular, gifted and special education teachers as well as curriculum specialists. It implies an expanded consultative role of the school psychologist with increased allocation of time and resources beyond identification assessment into designing and monitoring academic and behavioral interventions. It further implies a need for teacher training in identification, and in a wide-range of classroom accommodation, instructional and behavioral strategies.

Finally, our findings suggest that long standing, unrecognized learning problems are time and resource consuming to remediate. Emotional-motivational barriers must be concurrently addressed if academic interventions can be effective. However, we have identified patterns in readily available data, such a parent and teacher observations and group achievement test scores, that are apparent as early as third grade. If these can be used as markers for early identification, intervention in the form of congruence among the five factors of the pentahedral model, may obviate problems which become more complicated later. Although this needs to be empirically tested, our findings suggest that it may provide a way to efficiently release for future significant contribution locked potential which may otherwise wither untapped.

Figure 1

Identification Procedures
for Gifted and Talented Learning Disabled Pilot

Step 1 - Nomination Process

A. Staff nomination - Staff Checklist to Identify Gifted/Special Needs Students

B. Parent Nomination - Parent Checklist to Identify Gifted/Special Needs Students

C. The Education Management Team (EMT) with staff from the project meet to consider nominated students and decide who needs further assessment.

Step 2 - Educational Evaluation

A. Special education and other test data from gifted and talented screening and achievement testing is compiled.

B. An educational evaluation is completed (See Figure 4)

C. EMT meets to evaluate data gathered. The team may decide there is sufficient data to support gifted and talented identification and to plan programs; or they may decide that the WISC-R should be administered in order to provide additional information. The WISC-R and other assessments will be administered. Decision to administer the WISC-R and other psychological evaluations is conveyed to the school Admissions, Review, and Dismissal committee if a handicapping condition is suspected.

Step 3 - Psychoeducational Evaluation

A. A psychologist administers WISC-R and other assessments. (See Figure 5)

B. The school EMT or ARD should carefully consider all available data including the WISC-R and other psychological evaluations, as appropriate. If no handicap is suspected, the EMT reviews data for evidence of giftedness and clues to underachievement. Verbal and total scores of 120 or higher on the WISC-R are to be considered indicators of giftedness. All students with a cluster of considerably above average standard scale subtest scores indicating superior intellectual ability should be considered. If a handicapping condition is suspected, the SARD plans appropriate coding and intervention.

Figure 2

STAFF CHECKLIST TO IDENTIFY GIFTED/SPECIAL NEEDS STUDENTS

Staff Person _____ **Position** _____
School _____ **Date** _____

Your help is needed in bringing gifted or highly able students to our attention. Please take a few minutes to think of the children who first come to mind when you read the characteristics listed below. The list should not be viewed as a listing of traits that add up to a portrait of the gifted/special needs students.

Giftedness lies in the degree and combinations in which some of these traits may be present. If the student exhibits a pattern of characteristics from each list, further screening is recommended to establish whether he/she is a gifted/special needs student.

Primary Identifiers

A. Exceptional cognitive power for learning, retaining, and using knowledge/information when interested

B. Prefers complexity and challenging ideas/work but may become bored or impatient with practice or drill for memorization and mastery

C. Asks penetrating, searching, provocative questions

D. Offers clever unusual or "far-out" responses or solutions to problems; may develop own system for solving problems

E. Has large storehouse of factual knowledge about a variety of topics or expertise in a particular area

F. Shows acute sensitivity and perception regarding self, others and life in general

G. Uses unique and effective means to compensate for learning difficulties

H. Shows keen sense of humor and sees humor in situations that may not be humorous to others

Obstacles to Identification

I. Evidences a vast gap between qualitative level of written and oral work

J. Tends to set what may be unrealistic standards for self and for work - goals which are too high or too low

K. Evidences low self-esteem and self-confidence

L. Task commitment but easily distractible

M. Class work may be consistently incomplete or poorly done

N. Poor organizational, planning and sequencing skills

O. Average or below grade level performance in one or all basic skill areas

P. Passive or "unmotivated" attitudes toward school

Figure 3

PARENT CHECKLIST TO IDENTIFY GIFTED/SPECIAL NEEDS STUDENTS

Name of Student _____ Date _____

School _____ Grade _____ Age _____

Name of Parent or Guardian _____

Check one box for each of the following items if the statement describes your child. Use the "Explain" column if it helps to give a more complete picture of your child.

	Hardly Ever	Some of the Time	Most of the Time	Explain
1. Sets high standards for self; perfectionist; has high goals which are sometimes unrealistic				
2. Easily bored; dislikes routine tasks; continual need for more stimulation				
3. Uses unique and effective means to compensate for learning difficulties				
4. Distractible; need for structure; disorganized				
5. Vitality of imagination and creativity				
6. Superior comprehension and retention of vocabulary and concepts when interested				
7. Wide range of interests and/or special expertise in one particular area				

What in your child's behavior causes you to feel he/she is gifted and talented?

Describe your concerns about your child's progress in school.

Montgomery County Public Schools

FIGURE 4

TESTS ADMINISTERED

EDUCATIONAL EVALUATION

-Peabody Individual Achievement
(reading recognition, reading comprehension)

-Wide Range Achievement
(spelling and math) -Woodcock-Johnson Achievement Battery

-Beery Visual Motor Integration

-Raven's Progressive Matrices

-Draw A Person Test

-Test of Writing Language (TOWL) (optional)

FIGURE 5

PSYCHOEDUCATIONAL EVALUATION

-Wechsler Intelligence Scale for Children-Revised (WISC-R)

-Detroit Tests of Learning Aptitude
a. Sentence Imitation
b. Oral Directions
c. Object sequences
d. Letter sequences

-Bender Gestalt Visual Motor Test

-Informal Written Language Assessment

-Children's Sentence Completion Test

-Medical-Social History

-Kinetic Figure Drawing (KFD) (optional)

-Piers-Harris Self Concept (optional)

-Thematic Apperception Test (TAT) (optional)

-Parent and Child Interviews

Figure 6

A Pentrahedronal Model for Analyzing Problems of Child Development and Education

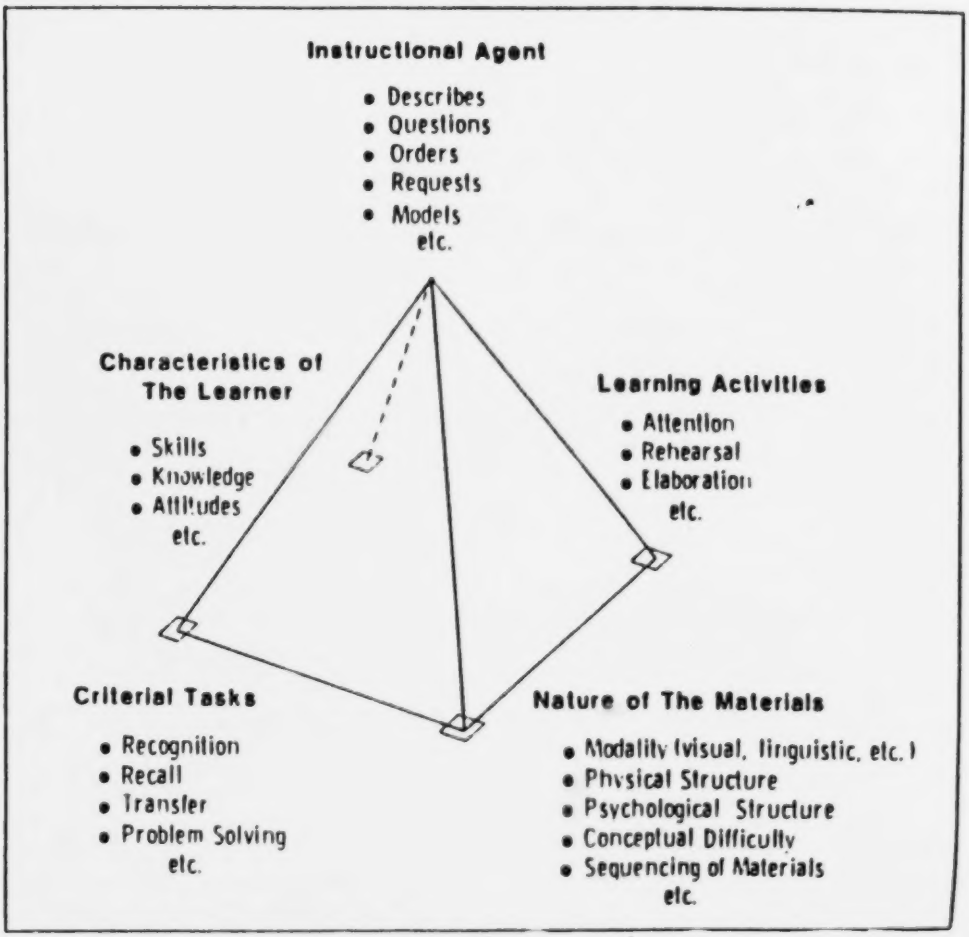

TABLE 1
IDENTIFICATION PROJECT FOR
GIFTED UNDERACHIEVING AND HANDICAPPED STUDENTS
NINE PILOT SCHOOLS AND A SUMMER PROGRAM

School	Referrals by School	Educational Evaluations	Psycho/Ed Assessments	Meetings at the School*
1	25	16	12	40
2***	14	11	3	2
3	54	14	6	20
4	12	11	8	10
5	36	15	3	6
6	14	9	7	8
7***	6	1	1	3
8	6	2	1	2
9***	15	9	4	16
Subtotal	182	88	45	107
Summer	62	62	18**	35
TOTAL	244	150	63	142

*This column reports the number of Educational Management Team (EMT) and School Admissions, Review, and Dismissal (SARD) meetings or other meetings regarding students
**The number of psycho-educational assessments needed for summer students is fewer because many were already coded handicapped with complete evaluations in their records
***Mid-level schools

TABLE 2
IDENTIFICATION PILOT
NINE SCHOOLS AND SUMMER PROGRAM

Educational Evaluations:	63	Psycho-educational
	62	Creative Communications
	25	Underachieving Pilot
	TOTAL 150	
Psychological Evaluations:	63	45-Pilot
	18	Creative Communications
	18	Reviews of psychologicals previously completed
	TOTAL 81	
Results of EMT/SARD meetings:	41	Gifted students with learning problems
New Identifications:		Gifted and Talented
	16	Pilot
	8	Creative Communications
	24	
		Learning Disabled
	7	Pilot
	8	Creative Communications
	15	

TABLE 3
IDENTIFICATION PILOT FOR
UNDERACHIEVING AND HANDICAPPED ELEMENTARY STUDENTS

Population (Gr1-6) 6 Schools	Referrals	Educational Evaluations	Psych/Ed Assessments	Newly Identified as LD
2151	147	67	37	5

Table 4

Mean WISC-R Scores Earned by the Sample of Superior Children with Learning Disabilities (N = 30)

WISC-R

Variable	Mean	SD	Range
Verbal Subtests			
Information	14.6	2.5	9-19
Similarities	16.2	2.2	10-19
Arithmetic	12.1	2.2	7-16
Vocabulary	15.5	2.6	10-19
Comprehension	14.4	2.8	6-19
Digit Span	11.6	3.6	4-18
Performance Subtests			
Picture Completion	12.2	2.3	7-17
Picture Arrangement	13.0	2.5	9-19
Block Design	12.7	2.6	7-18
Object Assembly	12.4	2.8	7-19
Coding	9.6	3.4	4-14
Mazes	12.4	3.9	7-19
IQs			
Verbal	127.6	9.8	105-150
Performance	112.9	12.3	91-138
Full Scale	123.0	7.9	109-141
Bannatyne Categories			
Verbal Conceptualization	15.3	1.8	10.7-18.3
Spatial	12.4	1.7	10.0-17.3
Sequencing	11.1	2.0	6.3-14.3
Acquired Knowledge	14.0	1.7	10.7-17.7

Note: Data for Mazes are based on N=18. Means, standard deviations, and ranges for Bannatyne's categories reflect the children's average scaled score on the three subtests constituting each category.

Source: Schiff, M. M., Kaufman, A. S. & Kaufman, N. L. Scatter Analysis of WISC-R Profiles for Learning Disabled Children with Superior Intelligence. Journal of Learning Disabilities, 1981, 14, 400-404.

Table 5

Comparison between WISC-R Scatter Indexes for Superior LD Children and Scatter Indexes Obtained by Normal Children in the WISC-R Standardization Sample

WISC-R Scatter Index	Superior LD children (N = 30) Mean	SD	Normal standardization sample (N = 2200) Mean	SD	t of Difference	Significance Level
V-P IQ discrepancy (regardless of direction)	18.6	12.1	9.7	7.6	4.02	$p < .001$
Scaled-score ranges of Verbal Scale (5 subtests)	5.9	2.6	4.5	1.9	2.94	$p < .001$
Verbal Scale (6 subtests. Digit Span included)	7.1	3.0	5.3	2.0	3.27	$p > .001$
Performance Scale (5 subtests)	6.1	2.6	5.5	2.3	1.42	$p > .05$
Full Scale	9.3	2.5	7.0	2.1	5.94	$p < .001$

Note: Scaled-score range equals the child's highest scaled score on a particular scale minus his or her lowest scaled score on that scale. Date for the normal standardization sample are taken from Kaufman (1976a, 1976b).

Scource: Schiff, M. M., Kaufman, A. S., & Kaufman, N. L. Scatter Analysis of WISC-R Profiles for Learning Disabled Children with Superior Intelligence, Journal of Learning Disabilities, 1981, 14, 400-404.

Table 6

Mean WISC-R Scores Earned by a Sample of Highly Abled Children (N=80)

WISC-R Variable	Mean	S.D.	Range
Verbal Subtests			
Information	14.9	2.1	8
Similarities	16.3	2.4	8
Arithematic	14.6	2.2	9
Vocabulary	15.5	2.2	9
Comprehension	15.3	2.4	13
Digit Span	12.9	3.1	12
Performance Subtests			
Picture Completion	12.8	2.6	13
Picture Arrangement	13.6	2.7	12
Block Design	14.3	2.3	11
Object Assembly	13.4	2.7	12
Coding	12.8	2.7	13
IQs			
Verbal	133.8	10.7	46
Performance	124.1	10.8	55
Full Scale	132.4	9.1	43

Table 7

Mean WISC-R Scores Earned by a Sample of Highly Abled Children with Learning Problems (N=41)

WISC-R Variable	Mean	S.D.	Range
Verbal Subtests			
Information	13.3	2.1	10
Similarities	16.3	2.7	10
Arithematic	12.0	2.7	13
Vocabulary	14.8	2.4	11
Comprehension	14.8	2.6	10
Digit Span	11.1	3.2	15
Performance Subtests			
Picture Completion	13.6	2.6	10
Picture Arrangement	13.1	2.1	10
Block Design	14.1	2.6	10
Object Assembly	13.1	3.0	13
Coding	9.8	2.5	10
IQs			
Verbal	127.5	10.4	44
Performance	120.3	11.1	46
Full Scale	126.8	8.2	35

Table 8

Comparison between WISC-R Scatter Indexes for Highly Abled Children with Learning Problems and Scatter Indexes Obtained by Highly Abled Children on the WISC-R

WISC-R Scatter	Highly Abled with Learning Problems (N=41)		Highly Abled Children (N=80)		t of	Significance
Index	Mean	S D	Mean	S D	Difference	Level
V-P IQ discrepancy (regardless of direction)	14.07	9.2	12.8	9.5	.6	0.511
Scaled-score ranges of Verbal Scales (5 Subtests)	6.2	2.2	4.6	1.8	4.4	0.000
Verbal Scales (6 Subtests - Digit Span Included)	7.4	2.5	5.9	2.3	3.2	0.002
Performance Scales (5 Subtests)	6.9	2.6	5.6	2.8	2.7	0.006
Full Scales	9.6	2.0	8.0	1.9	4.1	0.000

Table 9

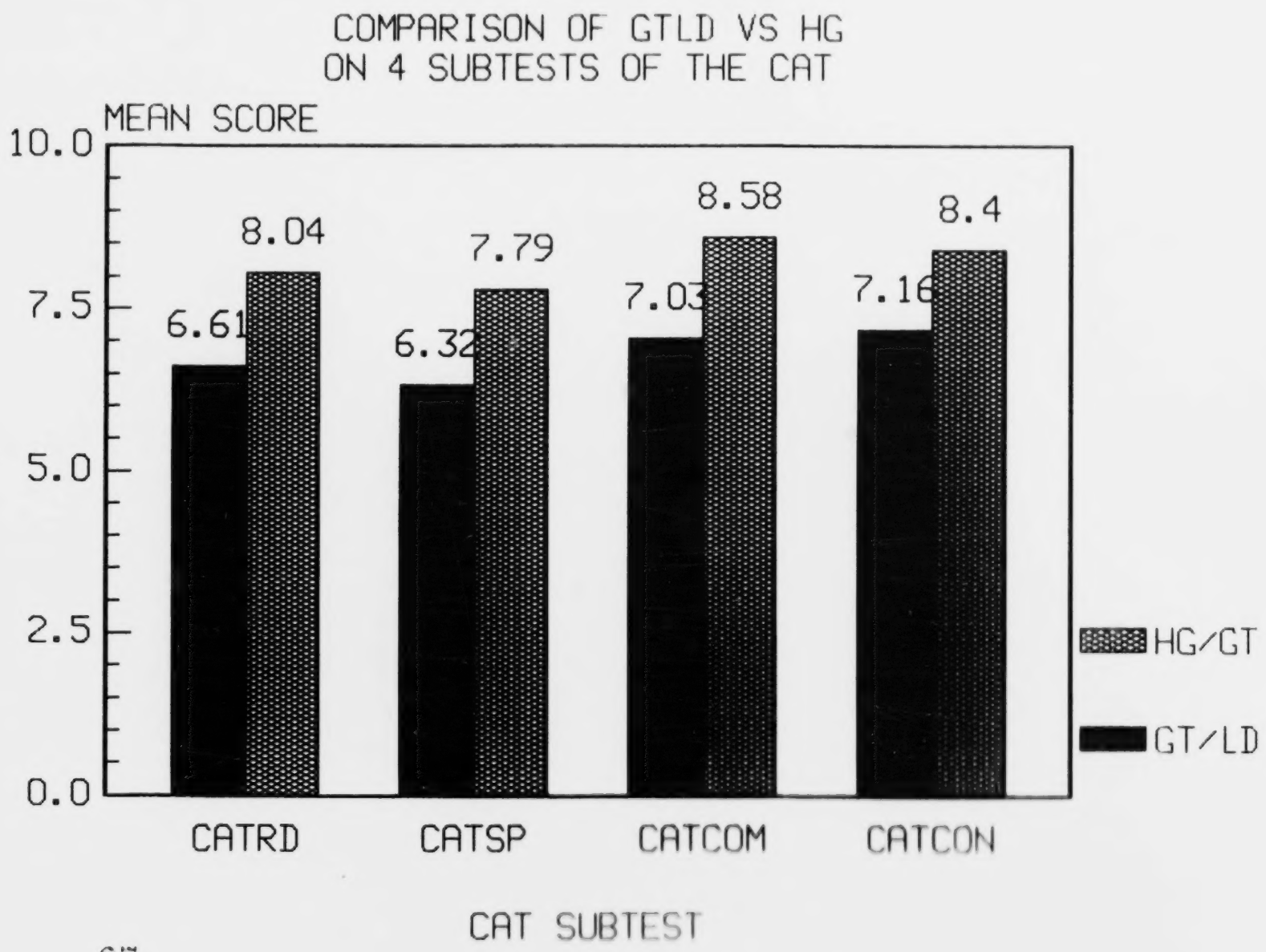
COMPARISON OF GTLD VS HG
ON 4 SUBTESTS OF THE CAT
MEAN SCORE
10.0
7.5
5.0
2.5
0.0
6.61
8.04
6.32
7.79
7.03
8.58
7.16
8.4
CATRD
CATSP
CATCOM
CATCON
HG/GT
GT/LD
CAT SUBTEST

Table 10

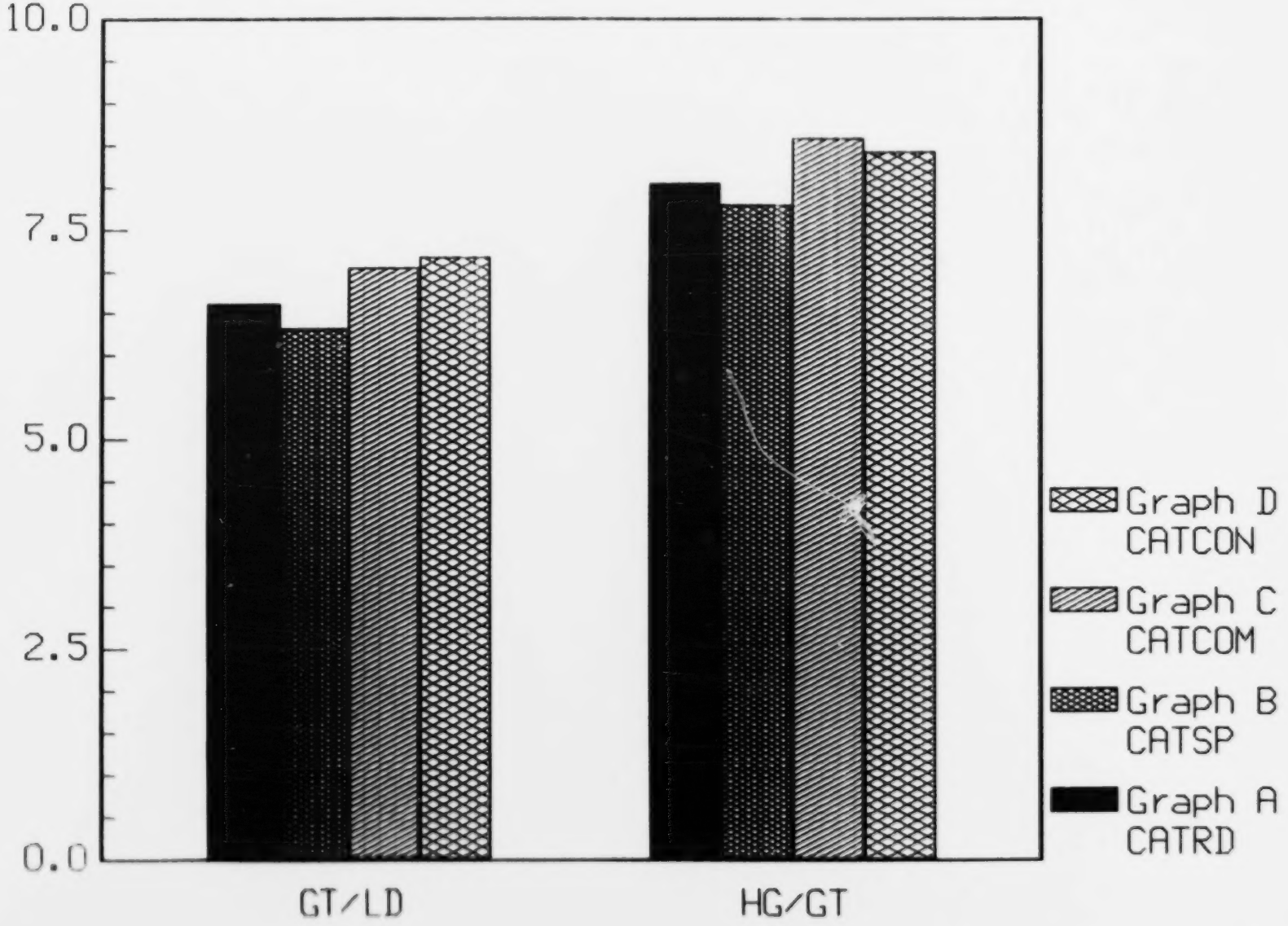
10.0
7.5
5.0
2.5
0.0
GT/LD
HG/GT
Graph D
CATCON
Graph C
CATCOM
Graph B
CATSP
Graph A
CATRD

Table 11

DISCRIMINANT ANALYSIS OF GTLD VS HG

DISCRIMINANT FUNCTION ANALYSIS

NO. OF CASES FOR GROUP A... 31
NO. OF CASES FOR GROUP B... 76
NO. OF INDEP. VARIABLES.... 4

VARIANCE OF DISCR. FUNC.... 2.770074
DEGREES OF FREEDOM 1..... 4
DEGREES OF FREEDOM 2..... 102
F RATIO..... 14.81268
PROB..... <.0001

DISCR. FUNC. FOR GROUP A... -13.06201
DISCR. FUNC. FOR GROUP B... -15.83208
MIDPOINT CUTOFF..... -14.44705

CLASSIFICATION RESULTS

ACTUAL GROUP	NO. OF CASES	PREDICTED GROUP 1	2
GROUP 1	31	20 64.52 %	11 35.48 %
GROUP 2	76	11 14.47 %	65 85.53 %

PERCENT OF CASES CORRECTLY CLASSIFIED: 79.44 %

Table 12

Students Characteristics:

Learning Problems	Mild 6♀ ; 6♂ N=(12)	Moderate 5♀ ; 16♂ N=(21)	Severe 8♂ N=(8)
Age Range at Identification	8-1 to 10-11	8-0 to 14-2	4-7 to 9-1
Grade Range at Identification	Grade 3 to 6	Grade 3 to 9	Pre-School to Grade 3
IQs means & ranges verbal performance full scale	v. 130.5 (117 to 146) p. 117.8 (102 to 139) f. 127.4 (118 to 147)	v. 127.3 (114 to 139) p. 119.5 (95 to 141) f. 126 (118 to 141)	v. 119.1 (102 to 137) p. 124 (100 to 131) f. 124 (117 to 139)
Achievement Difficulty	Reading: Below 0% At 14.3% Above 85.7% Math: Below 25.0% At 37.5% Above 37.5% Spelling: Below 37.5% At 37.5% Above 25.0% P-M: Below 12.5% At 37.5% Above 50.0%	Reading: Below 5.5% At 22.2% Above 72.2% Math: Below 33.3% At 22.2% Above 44.4% Spelling: Below 55.5% At 11.1% Above 33.3% P-M: Below 46.1% At 23.0% Above 30.7%	Reading: Below 57.1% At 42.8% Above 0% Math: Below 57.1% At 28.6% Above 14.3% Spelling: Below 100% At 0% Above 0% P-M: Below 28.5% At 14.3% Above 57.1%

GIFTED AND TALENTED LEARNING DISABLED
BIBLIOGRAPHY

Achenbach, T. M. Assessment and Taxonomy of Child in Adolescent Psychopathology. Beverly Hills, CA, Sage Publications, Inc., 1985

Alley, G. and Deschler, D. Teaching the Learning Disabled Adolescent: Strategies and Methods. Denver, CO: Love Publishing Co., 1979.

Baldwin, L. and Garguilo, D. "A Model Program for Elementary-age Learning-Disabled Gifted Children." In L. Fox, L. Brody, and D. Tobin (eds.), Learning-Disabled/Gifted Children: Identification and Programming, Baltimore, MD: University Park Press, 1983.

Baum, Susan. "Meeting the Needs of Disabled Gifted Students." Roeper Review, vol. 7(1), p. 16-19, 1984.

Baum, Susan. "Recognizing Special Talents in Learning Disabled Students." Teacher Exceptional Children, Winter 1984.

Bransford, J. D. Human Cognition: Learning, Understanding and Remebering, Belmont, CA: Wadsworth Publishing Co., 1979.

Brown, A. "Learning and Development: The Problems of Compatability, Access, and Induction." Human Development, vol. 25, p. 89-115, 1982.

Daniels, Paul. Teaching the Gifted/Learning Disabled Child, Aspen Systems Corporation, 1983.

Deshler, Donald D., Warner, Michael M., Schumaker, Jean B., and Alley, Gordon R. "Learning Strategies Intervention Model: Key Components and Current Status." Current Topics in Learning Disabilities, vol. 2, p. 245-283, 1983.

Dundon, William D. Trevor E. Sewell, John L. Manni, and David Goldstein. "The Bannatyne Recategorization Assessment Procedure: Is It Valid for Individual Diagnosis of LD Children?" Learning Disability Quarterly, vol. 9, Summer 1986.

Dunn, Rita. "Learning Style and Its Relation to Exceptionality at Both Ends of the Spectrum." Exceptional Children, vol. 49:6, p. 496-505, April 1983.

Eason, B. "Perceptual-motor Programs for the Gifted/Handicapped." Journal for the Education of the Gifted, vol. 11, p. 10-21, September, 1978.

Eaves, Ronald C. "Educational Assessment in the United States." Diagnostique, vol. 10, p. 5-39, 1984-85.

Fine, Marvin J. and Pitts, Roger. "Intervention with Underachieving Gifted Children: Rationale and Strategies." Gifted Child Quarterly, vol. 24, no. 2, Spring 1980.

Fox, L., Brody, L., and Tobin, D. (eds.). Learning-Disabled/Gifted Children: Identification and Programming, Baltimore, MD: University Park Press, 1983.

Fox, L. "Gifted Students with Reading Problems: An Empirical Study." In L. Fox, L. Brody, and D. Tobin (eds.), Learning-Disabled/Gifted Children: Identification and Programming, Baltimore, MD: University Park Press, 1983.

Hallahan, D. Kauffman, J., Lloyd, J. W., and McKinney, J. D. "Introduction to the Series: Questions About the Regular Education Initiative." Journal of Learning Disabilites, vol. 21, no. 1, pp. 3-5, January 1988.

Interagency Committee on Learning Disabilities. Learning Disabilities: A Report to the U.S. Congress. J. F. Kavanagh (ed.), August 1987.

Jacobson, V. "The Gifted/Learning Disabled." Exceptional Children Journal, 1984.

Jenkins, J. "Four Points to Remember: A Tetahedral Model and Memory Experiments." In L. Cermak and F. Craik (eds.), Levels and Processing in Human Memory, Hillsdale, NJ: Lawrence Erlbaum Associates, p. 429-446, 1979.

Karnes, M., and Bertschi, J. "Identifying and Educating Gifted/Talented Nonhandicapped and Handicapped Preschoolers." Teaching Exceptional Children, vol. X, p. 114-119, Summer 1978.

Karnes, M. "Young Handicapped Children Can Be Gifted and Talented." Journal for the Education of the Gifted, vol. II, p. 157-172, April 1979.

Karnes, Shwedel, Lewis. "Long-term Effects of Early Programming for the Gifted/Talented Handicapped." Journal for the Education of the Gifted, vol. 1:4, p. 275, 1983.

Klein, P. "Right and Left Hemispheres Represent Two Modes of Learning: The Overlooked or Misused Talents of Learning Disabled Children." Creative Child and Adult Quarterly, vol. V, p. 30-34, April 1980.

Leonard, J. (ed.). "Chapel Hill Services to the Gifted Handicapped: A Project Summary." Chapel Hill Training-Out Reach Project, Chapel Hill, N. C., 1977.

Maker, C. J. "Providing Programs for the Gifted Handicapped." Reston, VA: The Council for Exceptional Children, 1977.

Mauser, A. J. "Programming Strategies for Pupils with Disabilities Who Are Gifted." Rehabilitation Literature, p. 273, 1981.

McDermott, T. A. "Actuarial Assessment Systems for the Grouping and Classification of School Children." Handbook of School Psychology, New York, NY; John Wiley & Sons, p. 243-271, 1982.

National Commission on Excellence in Education. A Nation at Rick: The Impetus for Educational Reform, U.S. Goverment Printing Office, 1983.

Osgood, Robert L. "Intellegence Testing and the Field of Learning Disabilities: A Historical and Critical Perspective." Learning Disability Quarterly, vol. 7, no. 4, Fall 1984.

Palinscar, A. and Brown, A. "Reciprocal Teaching of Comprehension-Fostering and Comprehension Monitoring Activities." Cognitive and Instruction, vol. 1, no. 2, p. 117-175, 1984.

Pendarvis, E. and Grossi, J. "Designing and Operating Programs for the Gifted and Talented." An Administrator's Handbook on Designing Programs for the Gifted and Talented (Jordan and Grossi, Ed.), The Council for Exceptional Children, Reston, VA, 1980.

Renzulli, J. S. "Enrichment Triad Model." 1977.

"Rights Without Labels." Education Week, Forum, May 27, 1987.

Salvia, J. and Ysseldyke, J. Assessment in Special and Remedial Education (Md. Ed.). Boston: Houghton-Mifflin, 1981.

Schiff, M. M., Kaufman, A. S. & Kaufman, N. L. "Scatter Analysis of WISC-R Profiles for Learning Disabled Children with Superior Intelligence." Journal of Learning Disabilities, vol. 14, p. 400-404, 1981.

Schumaker, Jean B., Deshler, Donald D., Alley, Gordon R., Warner, Michael M. "Toward the Development of an Intervention Model for Learning Disabled Adolescents: The University of Kansas Institute." Exceptional Education Quarterly, vol. 4:1, Spring 1983.

Senf, G. "Future Research Needs in Learning Disabilities." In R. P. Anderson and C. Halcomb (eds.), Learning Disabilities/Minimal Brain Dysfunction Syndrome: Research Perspectives and Application, Springfield: Charles C. Thomas, p. 249-267, 1976.

Senf, G. "LD Research in Sociological and Scientific Perspective." In J. Torgesen and B. Wong (eds.), Psychological and Educational Perspectives on Learning Disabilities, New York: Academic Press, Inc., p. 27-53, 1986.

Senf, G. "Some Methodological Considerations in the Study of Abnormal Conditions." In R. Walsh and W. Greenough (eds.), Environments as Therapy for Brain Dysfunction, New York: Plenum Press, p. 343-360, 1978.

Suter, Donna P. and Wolf, Joan S. "Issues in the Identification and Programming of the Gifted/Learning Disabled Child." Journal for the Education of the Gifted, vol. 10:3, pp. 227-237, 1987.

Tindal, G. and Marston, D. "Approaches to Assessment." In J. Torgesen and B. Wong (eds.), Psychological and Educational Perspectives in Learning Disabilities. New York: Academic Press, Inc., p. 55-84, 1986.

Turnure, J. "Instruction and Cognitive Development: Coordinating Communication and Cues." Exceptional Children, vol. 53(2), p. 109-117, 1986.

Udall, A. and Maker, J. "A Pilot Program for Elementary-age Learning-Disabled/ Gifted Students." In L. Fox, L. Brody, and D. Tobin (eds.), Learning-Disabled/Gifted Children: Identification and Programming, Baltimore, MD: University Park Press, 1983.

Waldron, Karen A., Saphire, Diane G., and Rosenblum, Sue Ann. "Learning Disabilities and Giftedness: Identification Based on Self-Concept, Behavior, and Academic Patterns." Journal of Learning Disabilities, vol. 20, no. 7, August/September 1987.

Whitmore, Joanne Rand. "Gifted Children with Handicapping Conditions: A New Frontier." Exceptional Children, vol. 48, p. 106-114, October 1981.

Whitmore, Joanne Rand. "Recognizing and Developing Hidden Giftedness." The Elementary School Journal, vol. 42, no. 3, January 1982.

Whitmore, Joanne Rand. Giftedness, Conflict, and Underachievement. Allyn & Bacon, 1980.

Whitmore, Joanne Rand and Maker, C. June. Intellectual Giftedness Among Disabled Persons. Aspen, 1985.

Whitmore, Joanne Rand. "Quality Issues in Gifted Education: Recognizing and Developing Intellectual/Giftedness in Underserved Groups. A Resource Packet." Maryland State Department of Education, 1985.

Wolf, J., and Gygi, J. "Learning Disabled and Gifted: Success or Failure?" Journal for the Education of the Gifted, vol. IV, p. 199-206, April 1981.

Wong, B. "The Role of Theory in Learning-Disabilities Research." Journal of Learning Disabilities, vol. 12(9), p. 585-595, 1979.

Wong, B. "Metacognition and Learning Disabilities." In D. L. Forrest-Pressley, G. MacKinnon, and T. Waller (eds.), Metacognition, Cognition, and Human Performance, New York: Academic Press, 1985.

Wong, B. "Problems and Issues in the Definition of Learning Disabilities." In J. Torgesen and B. Wong (eds.), Psychological and Educational Perspectives on Learning Disabilities, New York: Academic Press, Inc., 1986.

Wunsch-Hitzig, R., Gould, M. S., and Dohrenwald, B. P. "Hypotheses About the Prevalence of Clinical Maladjustment in Children in the United States." The Ecosystem of the "Sick" Child. New York, NY; Academic Press, 1980.

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Spring 1988